

Plaintiffs' Exhibit 48



Google

doubleclick ad exchange
by Google

Mysteries of Dynamic Allocation

SOLVED!

December 15, 2011

Agenda

1. Overview of DA
2. Step-by-step: How DA works
3. DA scenarios
4. Mysteries solved: Advanced Q&A

Brought to you by a cross-functional team:

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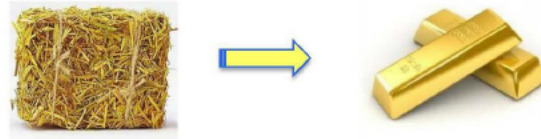
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POEM: Susan Childs

Training: Eileen Duffy

What is Dynamic Allocation?

Dynamic allocation is a yield maximization feature between DFP* and AdX/AFC which sets a dynamic floor where an AdX/AFC ad only serves if the price – calculated in real time – can beat the campaigns directly booked at the same priority setting or below it. It allows publishers to maximize their earnings by getting the highest paying ad available for any given ad impression.



Dynamic allocation with DFP* and AdX/AFC maximizes publishers' yield in **two ways**:

- 1.** By serving AdX/AFC whenever they offer more than the competing booked ad networks (**real-time competition**)
- 2.** By serving AdX/AFC when no other campaigns are available to run in that ad unit (**backfill**).

*DART and XFP

Why is it important?

It benefits the publisher by:



Filling remnant inventory

*Without blocks or pricing floors, AdX & AFC has a 99%+ fill rate

And through Real Time Competition

- Higher eCPMs
- Eliminate guesswork & manual prioritization of networks by publisher because the booked DFP rates and AdX/AFC rates are known for **every** impression served



AdSense/Ad Exchange Integration in XFP

- **Feature:** Serve ads from AdSense or Ad Exchange if they will make more money for a publisher
- Called “backfill” **internally**
 - AKA dynamic allocation (**externally**)
 - AKA remnant traffic
 - AKA callouts to AdSense/AdX
- Two types of backfill integration:
 1. Line item backfill: The client can target the specific inventory they want **AdSense/AdX** to monetize
 2. Inventory backfill: **AdSense ONLY*** monetizes all inventory on a specific ad unit or placement in XFP.

*Eng is looking into allowing inventory backfill for AdX, though it is not currently available.

Ad Exchange and AdSense can both be used for one of two purposes:

Backfill - Competes with other remnant providers in DFP to provide the highest price for the client's remnant inventory.

Remnant catch-all – AdSense or Ad Exchange is the only remnant provider and monetizes all remnant inventory.

There are two ways to book AdSense/Ad Exchange:

1) Inventory – AdSense/Ad Exchange monetizes all inventory on a specific ad unit or placement in XFP. This is for AdSense only.

2) Line item – The client can target the specific inventory they want AdSense/Ad Exchange to monetize based on the line item targeting.

Line Item Dynamic Allocation: How it Works

Dynamic Allocation: How it works

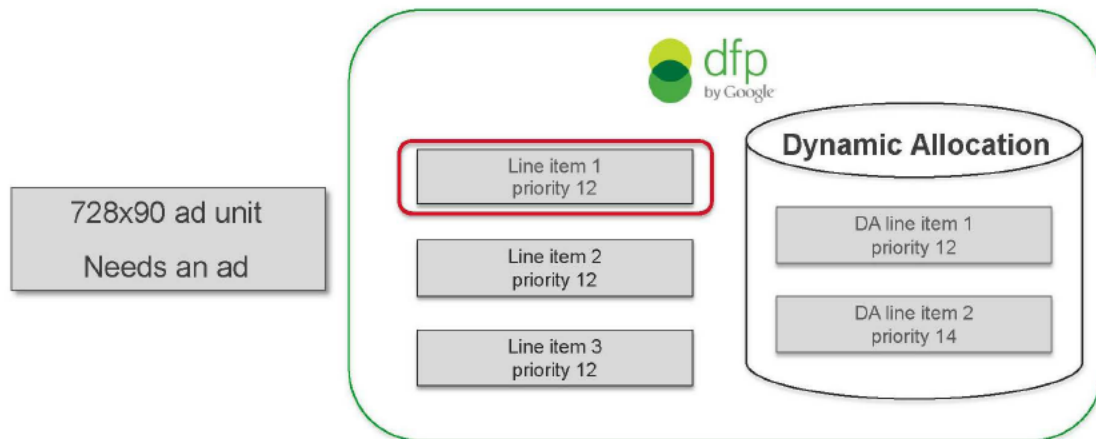
Priorities in XFP (a reminder):

Line item type	Priority	Goal
Sponsorship	4	percentage
Standard – high	6	absolute
Standard – medium (DEFAULT)	8	absolute
Standard – low	10	absolute
AdX/AdSense	12	dynamic allocation
Network	12	percentage
Bulk	12	absolute
Price priority	12	unlimited
House	16	percentage

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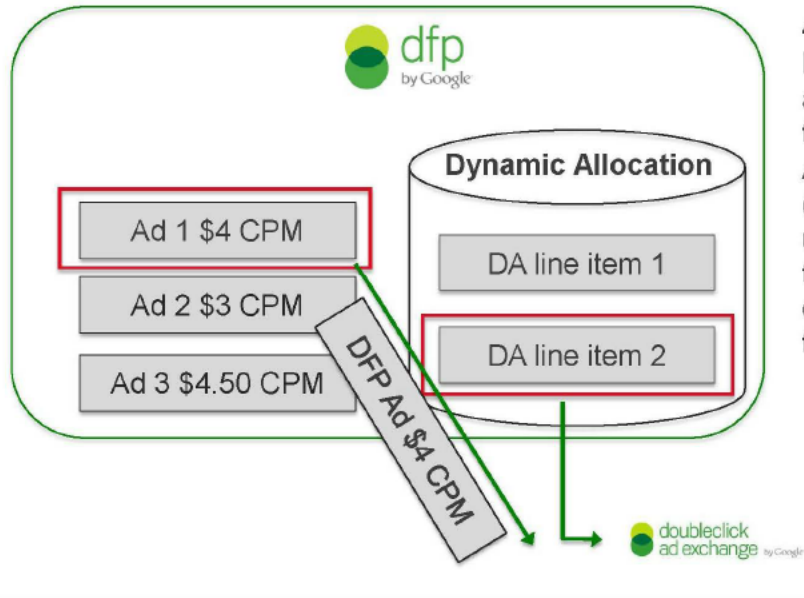
Dynamic Allocation: How it works

1. A ad impression becomes available. As usual, DFP uses its targeting signals to find matching line items.
2. DFP identifies any matching dynamic allocation line items at the same or lower numerical priorities as the DFP ad selected in step one.



Dynamic Allocation: How it works

3. Once DFP has chosen a line item, it then selects the best creative.



4. From the DA bucket, DFP **randomly** selects a DA line item, triggering an AdSense/AdX auction. (For this example, we'll use AdX.) The CPM of the DFP-booked creative is passed over to AdX.

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Dynamic Allocation: How it works

5. Ad Exchange finds all eligible ads, then runs its auction to determine a winner. The highest bidder wins.

Furthermore, the passed-in DFP price acts as a price floor for the auction. Any bids lower than it are thrown out.

*Note: all AdX prices are **net** (post revenue-share)*



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Dynamic Allocation: How it works

6. The AdX auction winner's bid is compared to the DFP booked price to determine the dynamic allocation winner. No matter what happens next, this is the buyer/ad that will serve to the publisher's site.

In other words: the system *dynamically allocates* the impression to either the DFP booked buyer or AdX, depending on which will yield more.



If the DFP ad is higher, it wins the impression. If the AdX ad is higher... (see *next step*)

Dynamic Allocation: How it works

8. If the Ad Exchange ad is chosen, the system must determine the second price for the buyer to pay.

The system will find the highest second price it can. It will compare the second-highest bid from AdX with the DFP booked price, and the higher of the two will serve as the second price.

AdX Buyer E: \$7.50

AdX Buyer A: \$3.50

Second-highest bid from the AdX auction

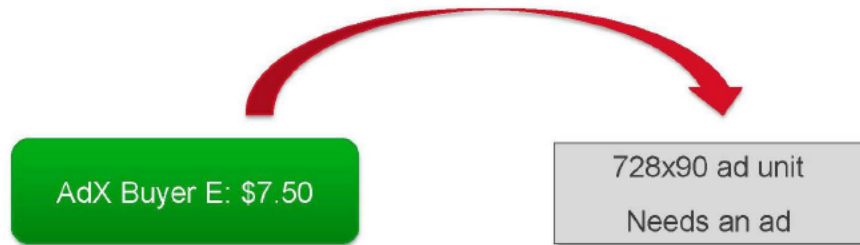
DFP Ad \$4 CPM

NEW SECOND PRICE

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Dynamic Allocation: How it works

9. AdX Buyer E wins the impression **at a price of \$4**. Buyer E's ad creative serves to the page.



Dynamic Allocation: How it works

In summary:

- If DFP chooses an ad booked at a priority at or below AdX, an AdX auction is triggered. DFP passes along the price of its chosen ad.
- AdX runs an auction, and the highest bidder wins.
- The AdX winner's bid is compared with the DFP booked price. The higher of these two prices will be the ad to serve to the publisher's site. (In other words: the system *dynamically allocates* the impression to either the DFP booked buyer or AdX, depending on which will yield more.)
- If the AdX ad is chosen, the system must determine a second price for the winning buyer to pay. It will choose the highest-possible second price: either the DFP booked price, or the second price from the AdX auction – whichever is higher.